

## REMARKS

### **I. Restriction Requirement**

It is respectfully believed that the third species identified by the Examiner falls within the scope of claims 1 and 20 and is merely a subset or adjunct to the first species. Present claim 1 includes a step of *monitoring for a change in a steady state rate of inflow of said first fluid*; and present claim 20 includes *monitoring means for monitoring for a change in steady state rate of inflow of said first fluid*...

As explained in paragraph 0091 of the specification as filed, if it is the case that the structure is, after initial manufacture, absolutely impermeable, then monitoring may be achieved by monitoring for the presence of a gas marker instead of monitoring for a pressure differential across the fluid impedance. Thus in this circumstance, the provision of a marker or trace is simply an alternate means for achieving the monitoring step or feature. If the structure goes from being absolutely impermeable to permeable, then there will be a change in steady-state rate of inflow of the marker (changing from zero to something), which the monitoring means will detect by detecting the presence of the marker. In most circumstances, when the structure has some degree of permeability so that there is a flow of fluid therethrough, the marker has a secondary role in indicating the location of a flaw. Thus while the primary monitoring is achieved via the use of the fluid flow impedance, which will detect the presence of a flaw, the fluid marker acts as a subset of this monitoring system and provides the location of the detected flaw.

For the above reasons, it is submitted that the third species is in reality a mere subset of, and clearly within the scope of, the first species. The third species as identified by the Examiner is the subject of present claims 8, 9 and 24. It will also be recognized that claims 8 and 9 are dependent directly or indirectly on claim 1, while claim 25 is dependent on claim 20.

## **II. New Claims 29-38**

New Claims 29-38 have been presented to more particularly point out that which the Applicants regard as their invention. No new matter is presented thereby.

New claim 29 is believed to be generic to the first, second, and third species. This claim differs from present claim 1 by removing reference to the internal cavity in the preamble of the claim and modifying the "placing" step to include providing one or more cavities on or in the structure. The methods depicted in Figures 2, 3, and 4b are essentially identical. The only difference between these methods relates to the form of the structure on which the method is applied. In original claim 1 the structure is defined as having a pre-existing cavity. In original claims 11 and 13 the methods included specific steps for forming cavities in or on the structure. In new claim 29 cavities may be either pre-existing or explicitly created as part of the method. For this reason it is believed that new claim 29 is generic to the first and second species; and, the third species since the third species is as described above, a subset or adjunct of the first species.

New claims 30-38 depend on claim 29.

Applicant and the undersigned would like to thank the Examiner for his efforts in the examination of this application.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version With Markings to Show Changes Made.**"

Applicant respectfully submits that the above amendments place this application in a condition for allowance, and passage to issue is respectfully solicited. The Applicant and the undersigned would like to again thank the Examiner for his efforts in the examination of this application and for reconsideration of the claims as amended in light of the arguments

presented. If the further prosecution of the application can be facilitated through telephone interview between the Examiner and the undersigned, the Examiner is requested to telephone the undersigned at the Examiner's convenience.

Respectfully submitted,

  
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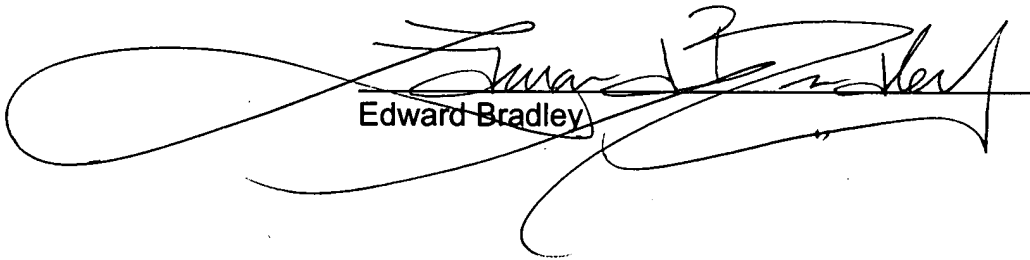
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#### **CERTIFICATE OF MAILING**

I hereby certify that the foregoing is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner of Patents, Washington D.C. 20231, this 13<sup>th</sup> day of February, 2003.

  
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Edward Bradley

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Claims:**

Please cancel Claims 8, 9, 11-19, and 25-28 drawn to the non-elected inventions.

Please also enter the following new Claims 29-38:

29. A method of monitoring the integrity of a structure disposed in an environment containing a fluid at an ambient pressure, said method including the steps of:

providing a source of a first fluid at a first pressure greater than said second pressure;

placing said source in fluid communication with one or more cavities provided on or in said structure; and

monitoring for a change in a steady state rate of inflow of said first fluid into said one or more cavities.

30. The method according to claim 29 wherein said step of placing said source in fluid communication with one or more cavities provided on or in said structure includes forming said one or more cavities on or in said structure.

31. The method according to claim 30 wherein said step of forming said one or more cavities includes forming a recess or depression in or on said structure and forming a seal across said recess or depression.

32. The method according to claim 30 wherein said step of forming said one or more cavities includes constructing said structure as an ensemble of two or more components which are coupled together, said components juxtaposed relative to each other in a manner so that a surface of one component is adjacent to a surface of at least one other of said

components to form respective adjacent surface pairs, and forming said one or more cavities between one or more of said adjacent surface pairs.

33. The method according to claim 32 further including the step of placing alternate ones of said cavities in fluid communication with said ambient pressure to produce adjacent interspersed source pressure cavities and ambient pressure cavities.

34. The method according to claim 33 further including the step of placing a moisture trap in series connection between said ambient pressure cavities and said environment or a source of said ambient pressure.

35. The method according to claim 32 wherein, said monitoring step includes coupling a high fluid flow impedance in series between said source pressure cavities and said source, to create a steady state differential pressure between said source pressure cavities and said source, and monitoring for a change in said steady state differential pressure.

36. The method according to claim 32 wherein, said monitoring step includes providing a supply of a fluid marker in fluid communication with said first fluid source and monitoring said structure for traces of said fluid marker.

37. The method according to claim 32 wherein, when said components of said structure, are coupled together by a layer of adhesive, or incorporate a layer of sealing material between said adjacent surface pairs, said forming step includes forming said cavities in said adhesive or sealing layer.

38. The method according to claim 32 wherein, where said components are coupled together by mechanical fasteners, said forming step includes providing a seal about said adjacent pairs to form said cavities between said adjacent surface pairs.